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Substitute for form 1449/PTO

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Sheet	1	of	5
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Complete if Known

Application Number	10/576,134
Filing Date	July 13, 2007
First Named Inventor	Enrique V. Barrera
Art Unit	1713
Examiner Name	Unknown
Attorney Docket Number	11321-P074WOUS

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FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ²
		Country Code ³ *Number ⁴ *Kind Code ⁵ (if known)	MM-DD-YYYY			
		WO 05/028740	03-31-2005	Margrave et al		
		WO 05/030858	04-07-2005	Tour et al		

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Complete if Known			
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NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	1	Iijima, "Helical microtubules of graphitic carbon," Nature (1991) 354, pp. 56-58	
	2	Iijima et al, "Single-shell carbon nanotubes of 1-nm diameter," Nature (1993) 363, pp. 603-605	
	3	Bethune et al, "Cobalt-catalysed growth of carbon nanotubes with single-atomic-layer walls," Nature (1993) 363, pp. 605-607	
	4	Calvert, "A recipe for Strength," Nature (1999) 399, pp. 210 -211	
	5	Thostenson, "Advances in the science and technology of carbon nanotubes and their composites: a review," Composite Science and Technology (2001) 61, pp. 1899-1912	
	6	Schadler et al, "Load transfer in carbon nanotube epoxy composites," Appl. Phys. Lett. (1998) 73, pp. 3842-3844	
	7	Ajayan et al, "Single-Walled Carbon Nanotube-Polymer Composites: Strength and Weakness," Adv. Mater.(2000) 12, pp. 750-753	
	8	Khabashesku et al, "Chemistry of Carbon Nanotubes," Encyclopedia of Nanoscience and Nanotechnology (2004) 1, pp. 1- 47	
	9	Khabashesku et al, "Fluorination of Single-Wall Carbon Nanotubes and Subsequent Derivatization Reactions," Acc. Chem. Res. (2002) 35, pp. 1087-1095	
	10	Bahr et al, "Covalent chemistry of single-wall carbon nanotubes," J. Mater. Chem. (2002) 12, pp. 1952-1958	

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	11	Hafner et al, "Catalytic growth of single-wall carbon nanotubes from metal particles," Chem. Phys. Lett. (1998) 296, pp. 195-202	
	12	Cheng et al, "Bulk morphology and diameter distribution of single-walled carbon nanotubes...", Chem. Phys. Lett. (1998) 289, pp. 602-610	
	13	Nikolaev et al, "Gas-phase catalytic growth of single-walled carbon nanotubes from carbon monoxide," Chem. Phys. Lett. (1999) 313, pp. 91-97	
	14	O'Connell et al, "Band Gap Fluorescence from Individual Single-Walled Carbon Nanotubes," Science, (2002) 297, pp. 593-596	
	15	Bachilo et al, "Structure-Assigned Optical Spectra of Single-Walled Carbon Nanotubes," Science (2002) 298, pp. 2361-2366	
	16	Strano et al, "Electronic Structure Control of Single-Walled Carbon Nanotube Functionalization," Science (2003) 301, pp. 1519-1522	
	17	Chiang et al, "Purification and Characterization of Single-Wall Carbon Nanotubes," J. Phys. Chem. B (2001) 105, pp. 1157-1161	
	18	Chiang et al., "Purification and Characterization of Single-Wall Carbon Nanotubes (SWNTs) Obtained from the Gas-Phase...", J. Phys. Chem. B (2001) 105, pp. 8297-8301	
	19	Liu et al., "Fullerene Pipes," Science (1998) 280, pp. 1253-1256	
	20	Gu et al, "Cutting Single-Wall Carbon Nanotubes through Fluorination," Nano Lett. (2002) 2, pp. 1009-1013	

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	21	GEORGAKILAS et al, "Organic Functionalization of Carbon Nanotubes," J. Am. Chem. Soc., (2002) 124, pp. 760-761	
	22	BARRERA, "Key Methods for Developing Single-Wall Nanotube Composites," JOM (2000) 52, pp. 38-42	
	23	ZHU et al, "Improving the Dispersion and Integration of Single-Walled Carbon Nanotubes in Epoxy...", Nano Lett., (2003) 3, pp. 1107-1113	
	24	ZHU et al, "Reinforcing Epoxy Polymer Composites Through Covalent Integration ...," Adv. Funct. Mater. (2004) 14, pp. 643-648	
	25	PANTAROTTO et al, "Synthesis Structural Characterization, and Immunological Properties of Carbon Nanotubes...", J.Am. Chem. Soc. (2003) 125, pp. 6160-6164	
	26	ZHANG et al, "Sidewall Functionalization of Single-Walled Carbon Nanotubes with Hydroxyl...", Chem. Mater., (2004) 16, pp. 2055-2061	
	27	EBBESEN, "Carbon Nanotubes," Annu. Rev. Mater. Sci. (1994) 24, pp. 235-264	
	28	THESS et al., "Crystalline Ropes of Metallic Carbon Nanotubes," Science (1996) 273, pp. 483-487	
	29	VANDER WAL et al., "Flame Synthesis of Fe Catalyzed Single-Walled Carbon Nanotubes and Ni Catalyzed Nanofibers...", Chem. Phys. Lett. (2001) 349, pp. 178-184	
	30	ANDERSON et al., "Analysis of Silicones," A.L. Smith, editor, Wiley-Interscience, New York (1974) Chapter 10	

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	31	Mickelson et al, "Fluorination of Single-Wall Carbon Nanotubes," Chem. Phys. Lett. (1998) 296, pp. 188-194	
	32	Lau, "Effectiveness of using carbon nanotubes as nano-reinforcements for advanced composite structures," Carbon (2002) 40, pp. 1605-1606	
	33	VELASCO-SANTOS et al., "Chemical Functionalization of Carbon Nanotubes Through an Organosilane," Nanotechnology (2002) 13, pp. 495-498	
	34	CHIANG, I. W. Ph.D. Thesis, Rice University, Houston, TX (2001) pp. 1-171	

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